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ABSTRACT

The nature of neuropsychological assessment and its application in the school environment are discussed. Neuropsychology is the study of how the brain and nervous system affect thinking and behavior. A complete neuropsychological assessment requires gathering and analyzing information on a child's: (1) physical, social, and psychological development; and (2) education. Sources of data for neuropsychological assessments include parental observations, formal observation, standardized measures, and other tests such as the Halstead-Reitan Neuropsychological Test Battery and the Luria-Nebraska Neuropsychological Battery. Educational application of neuropsychological assessment is particularly pertinent today due to recent laws concerning education of the handicapped, the wide range of programs offered by schools for the developmentally disabled, and the difficulties involved in identification of learning disabilities. Although neuropsychological tests are excellent diagnostic tools, they are limited by the following: thoroughly trained professionals must administer the tests and interpret results; several other indicators must be used along with test results; questions about the validity of norms for such tests; and the time consuming nature of the tests. A five-item list of additional reading materials is included. (TJH)

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NEUROPSYCHOLOGICAL ASSESSMENT IN SCHOOLS

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Neuropsychological Assessment in Schools

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Neuropsychological assessment is a tool that has traditionally been used by hospital clinicians and clinical psychologists. However, now that educators have begun to recognize the value of neuropsychological assessment, many school psychologists are being trained to use it as a regular part of assessing children with special needs.

This digest tells you what neuropsychological assessment is and why it's important to educators. It explains how educators use neuropsychological assessment and what some of its limitations are. It also provides a list of sources where you can find out more about neuropsychological assessment.

What Is Neuropsychological Assessment?

In theory

Neuropsychology is the study of how the functions of your brain and nervous system affect the way you think and behave. For some time now, neuropsychology has helped hospital clinicians assess patients who have experienced head injuries to determine how neurological damage affects their patients' thinking skills and behavior. Clinical psychologists have also benefitted from neuropsychology because it helps them more accurately assess the causes of some patients' behaviors.

Recently, education experts have begun to use neuropsychology to explain why some children have trouble acquiring language skills, learning to read, developing arithmetic reasoning skills, and so on. Using neuropsychology in schools can help teachers serve children with learning disabilities more effectively because a child who has neurologically related disabilities does not benefit from the same teaching techniques (such as repetition) that a student who learns at a slower rate benefits from.

Neurological assessment is a tool for evaluating how much a child's performance may be influenced by unusual functions of the brain and nervous system. It helps school psychologists systematically measure a child's skills and determine the best learning environment for the child.

In practice

A complete neuropsychological assessment requires gathering and analyzing information about the child's development physically, socially, and psychologically as well as the child's education. This information comes from a variety of sources:

- **Parents' observations** are a valuable source of information because parents are the first observers to evaluate such things as their child's motor skills, language acquisition, and the like.
- **Formal observation** for example, watching the child copy designs, pronounce words, or figure out an arithmetic problem is also part of the assessment.
- **Some standardized assessment measures** with established validity and reliability already exist for example, asking a child to generate rules from examples or to state socially accepted behaviors for given situations.
- **Other tests** are designed to help assess neuropsychological development as well. The two most common tests are:
  - the *Halstead-Reitan Neuropsychological Test Battery* (which includes the revised Wechsler Intelligence Scale for Children) and
  - the *Luria-Nebraska Neuropsychological Battery*.

Why Is Neuropsychological Assessment Important for Educators?

Recent laws for the handicapped encourage it

Educators have turned to neuropsychological assessment in an effort to comply with recent laws for the

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handicapped. *The Education for All Handicapped Children Act of 1975* (Public Law 94-142) and *The Education and Handicapped Act Amendments of 1986* (Public Law 99-457) require schools to search for and serve all handicapped children who are three years old and older. The act and its amendments require educators to screen, assess, and identify children with learning disabilities early on so that these children can receive an education that is best-suited to their needs.

Schools today offer a wide range of programs

Programs in most schools address a wide range of functioning levels from the severely developmentally disabled to the gifted or talented. For these programs to work effectively, the school psychologist must identify the learning strengths and weaknesses of each child so that the children will be placed in the educational environment that will help them reach their full learning potential. The more extensive the psychologist's repertoire of insightful tools, the more complete the evaluation. And, the more complete the evaluation, the more appropriate the child's placement.

Learning disabilities are difficult to identify

Identifying learning disabled students has never been an easy task. Students' ability to acquire learning skills can be affected by many factors, ranging from physical make-up to home environment. It is possible that Johnny can't read because he has not been in school enough, has emotional problems that interfere with learning, is unable to listen to instruction, or has a brain dysfunction that prevents the acquisition of learning material through traditional methods. In order to separate the many overlapping factors and provide the most accurate diagnosis possible, the school psychologist must use the best diagnostic instruments available.

Children with subtle problems benefit most from neuropsychological assessment because they do not have severe disabilities that have obvious symptoms; yet, these children do not function best within the normal learning environment.

How Do Schools Use Neuropsychological Assessment?

Just as the medical practitioner uses diagnostic tests to rule out or to corroborate diagnoses, the school psychologist assesses abilities using neuropsychological assessment. Most students are not formally assessed. If a teacher notices that a child seems to have learning problems, the teacher may modify teaching methods accordingly. If the student fails to respond, then more extensive assessment may be done to determine the best instructional approaches to meet the student's needs.

What Are Some Limitations of Neuropsychological Assessment?

One of the advantages of neurological assessment is that it can accurately detect neurological damage or dysfunction without the need for obtrusive medical tests. However, some limitations should be kept in mind:

- To perform neuropsychological assessments well, you must be a thoroughly trained professional.
- The results of a neuropsychological assessment are not an absolute score or completely accurate proof. You must use results along with data that are compiled from many different sources.
- Many experts question the validity of basic norms of neuropsychological assessment because the norms were originally derived from groups that were predominantly adults; only a very small sample of children were represented in the populations that were studied to produce the norms.
- Neuropsychological assessment batteries are long and extremely time consuming when used in their complete form.

Additional Readings

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